

# THE FARMER & GARDENER

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BALTIMORE: TUESDAY, JAN. 22, 1839.

We comply with the urgent request of "A Subscriber," by republishing to-day certain articles which appeared editorially in our paper of the 8th inst. and respectfully refer such of our readers as may not have read them, to the latter pages of this day's sheet.

As we have hitherto done, we shall continue to lay before our readers every thing within our reach of importance to the *Silk Culture*, believing that in so doing we shall subserve the best interests of our common country.

### SUGAR FROM BEETS.

We have inserted in our journal to-day a highly interesting memoir addressed by Mr. Fleischman, a clerk in the patent office, to Congress, upon the introduction, rise, and progress of the manufacture of sugar from beets in Europe. We considered the memoir too important to divide, and have, therefore, given the whole in this paper, and judging from the pleasure and instruction which we derived from its perusal, we are confident our readers will thank us for giving it entire.

To Mr. Ellsworth, the Commissioner of the patent office, by whom it was transmitted to us, we return our sincere acknowledgements, and seize this occasion to say, that the agricultural community are deeply indebted to him for his untiring exertions to promote their interests and advance the cause of husbandry.

### THE HESSIAN FLY.

Our readers will recollect that upwards of two years since we published a paper from the pen of Dr. Jefferson Shields upon the Hessian fly, and that in that communication, the reader was induced to conclude, that the Dr. intended to favor the public with a pamphlet upon the subject. Since that period, though often reminded of the inferential promise of the Dr., we have heard nothing from him upon the subject, until a few days since,

when a friend placed in our hands the following memorandum, which we give to our readers, knowing that a deep interest is felt upon every thing connected with this destructive insect:

"Dr. Jefferson Shields states that the Hessian fly commences the deposit of the egg on the 25th of April to the 5th of May;  
2d. From 20th June to the 5th of July;  
3d. 20th Sept. to the 10th of October—1-10 remain in a chrysalis state to the next generation (—one tenth) they deposit only in the stalks of wheat, barley and speltz.

The October deposit of eggs by the Hessian fly, is made just above the first joint, which frequently will be one and a half inches under the ground. The April deposit is made at the first joint just above the ground; the June and July deposits are made next the top joint, in the under wheat that shoots up in June: in this under wheat, the insect is preserved, until September and October wheat has made its appearance above ground.

Copy from a piece furnished me by Dr. Shields in his own hand-writing."

The Kentuckians deserve every possible success in their efforts to improve the breeds of domestic animals; for there are no men in this country more liberal in rewarding enterprise. As an instance we would mention that the services of Berkshire boars are charged there at \$10, and we have no doubt, from the laudable spirit prevailing in that quarter, that full employment will be found for every one which may be placed in the delicate position of a solicitor in the court of love.

RECIPE—*A sure cure for sore throat*—A gentleman of this place has handed us the following recipe, in the efficacy of which he expresses the greatest confidence, if it be applied in time:

Beeswax, 1 ounce: rosin or turpentine from the pine, 1 ounce: hogs lard 2 ounces; stew them together until dissolved, and after cooling them a little add one-half of an ounce of gum camphor and one table-spoon full of the flour of sulphur, and stir them well together—spread it on a linen cloth, large enough to cover the breast, with a hole in the middle, and apply it to the breast warm, occasionally removing, warming and renewing the application. Care should be taken to keep the breast well drawn.—*Lynchburg Virgin.*

The editor of the *Farmer and Gardener* will add, that the very best remedy he has ever tried in his family for a cough or cold, is a decoction of the leaves of the pine tree sweetened with loaf sugar, to be drank warm freely when going to bed at night, and cold through the day.

*Silk*.—On the 2d of April last, a law was passed by the Legislature for the encouragement of the culture and manufacture of silk, which provided that the premium should be paid by the State of 20 cents for every pound of cocoons raised, and 50 cents for every pound of silk reeled. We are pleased to learn that under the provisions of this law, Miss Gertrude Rapp, of the *Economy Society*, in this county, has recently drawn from the treasury the sum of three hundred and sixty-seven dollars. Beaver county is certainly going ahead in this business.—*Beaver Argus.*

Never was money more wisely expended by a state—never did a lady more richly deserve the gratitude of her country.—*Editor Farmer and Gardener.*

*Morus Multicaulis*.—The New York Journal of Commerce says:—"The trees which bear this learned name, continue to be great favorites. At an auction sale to-day they brought 37½ cents each, about five feet long, and with all the precious buds trimmed off."

### TOBACCO.

The following information may prove of service to some of our subscribers, both here and in the West, as it contains the latest information respecting the stocks of this staple in the great marts in Europe, no accounts of which we believe has yet been published in this country.—*Philad. Com. List.*

From our Correspondent.

Stocks of Tobacco in first hands Dec. 1st.			
IN ROTTERDAM—			
Maryland and Ohio,	hhds.	2,874	3,334
Virginia,	do	1,118	134
Kentucky,	do	43	
Stems,	do	1,063	
IN AMSTERDAM—			
Maryland and Ohio,	hhds.	2,632	957
Virginia,	do		
Kentucky,	do		
IN BREMEN—			
Maryland and Ohio,	hhds.	4,800	1,606
Virginia,	do	273	178
Kentucky,	do	530	133
Stems,	do	1,750	337
IN ANTWERP—Nov. 30th.			
Maryland,	hhds.	219	
Virginia,	do	852	
Kentucky,	do	391	71
IN LONDON, on the 1st December, 1838, the stock was 11,200 hhds.; against 14,860 in 1837, and 22,000 in 1836.			
IN LIVERPOOL, on the 1st December, the stock was 5,465 hhds. Import thus far in 1838, 8,000 hhds.			

There were exported from Boston during the year 1835, 2,948,834 pounds refined sugar.

## THE SILK CULTURE.

We hail among the proceedings of the House of Delegates on Saturday last, one of the best signs we have seen. Mr. Witcher, laid before them an interesting and characteristic Memorial of Morris Pollok, a rich and interesting Silk Throwster of Glasgow. He is prosecuting the business with as much skill and success perhaps as any Silk manufacturer in Scotland. His annual outlay is about \$150,000—and he proposes, in consequence of the genial climate and inviting prospects of Virginia, to lay the foundation of a large establishment in Pittsylvania county—to cultivate the Mulberry, to manufacture silk—and instruct our Farmers by actual experiments how they may carry on the business, and turn their otherwise useless hands into productive labor. The aged and the very young may be employed in gathering leaves and tending the ingenious insect.—We confess, there is something in this application, which inspires us with a hope we never had indulged before.—We hail it as one of the most cheering signs of the rising prospect of the silk culture of Virginia.

Several parts of this State have already been doing a little in this line. In addition to the specimens we had previously received, we have before us some fine and beautiful silk thread from a lady in Rockingham county, made from the common black Mulberry. We invite others to make similar contributions; and if it be desirable, we will give not only the places, but names to the Public. We observe in the last Savannah Georgian, "that Mr. Olmsted, a gentleman who has for some time past devoted much attention to the culture of the *Morus Multicaulis*, has arrive there from the North, on his way to Florida. The object of his visit to the South is, to promote the culture of the Mulberry, and the production and manufacture of silk.—He will exhibit some specimens of silk at the library room, and give any information on the subject in his possession to those interested in the subject. His specimens which we have seen are beautiful, and will repay the visitor."

We have on hand a short, but beautiful and instructive Memoir on the raising of silk, which was intended as a *New Year's Gift* to the Citizens of Virginia. We shall take pleasure in laying it before our readers in the course of the week.—*Richmond Enquirer*.

## MEMOIR TO CONGRESS ON THE BEET CULTURE.

To the honorable the Senate and House of Representatives of the United States of America in Congress assembled:

The memorial of Charles Lewis Fleischmann, a naturalized citizen of the United States, RESPECTFULLY REPRESENTS:

The existence of crystallizable sugar in the beet-root was discovered by the German chemist Markgraf, in the year 1747. He communicated the results of his experiments to the Royal Academy of Sciences at Berlin; pointed out the importance which his discovery would have on agriculture and industry, and endeavored to bring it into practice; but at that time, the price of sugar being moderate, chemistry not advanced to modify the complicated operations, and the spirit

of enterprise not sufficiently awakened to make it an object of speculation, the discovery remained without being put into practical use until the year 1796, (forty-nine years afterwards,) when Achard, another Prussian chemist, repeated the experiments of Markgraf, modified them, and erected the first manufactory at Kunern, in Germany.

The results of Achard's manipulation created great sensation all over Europe, particularly in France, where the chemists re-examined the process of Achard, simplified it, and made it more practicable and profitable in its results.

These simplified manipulations were adopted by enthusiastic speculators, full of sanguine expectations, peculiar to the French character; but the results were not satisfactory, as the immensely large and costly manufactories were partly established in places where the soil was not sufficiently productive, where fuel was scarce and high, the market distant, and the operations directed by men who had not the least idea of agriculture—a science necessarily connected with the manufacture of the beet-sugar—nor practical knowledge of an entirely new process; and a most imperfect apparatus. The consequence of these obstacles was a complete failure, which induced the opinion over the whole world, that the extraction of sugar from the beet, though correct in theory, was impracticable on a large scale.

This, however, was not the opinion of enlightened men; they saw the causes of failure in their true light, and endeavored to overcome and to correct them. The political events of 1812 accelerated the development of this new branch of industry; the French Government, in want of a substitute for the colonial sugar, encouraged the manufacture of the beet-sugar, by establishing four large manufactories, and teaching the best method of extraction.

In 1814, these manufactories were in full operation and flourishing, when the peace of Europe allowed the importation of the colonial sugar into France, causing a destructive shock to the manufacturers of indigenous sugar, which none but immense fortunes could endure, and created, again, the belief that the manufacture of the beet-sugar could never come in competition with the colonial.

This might have been the final catastrophe of the manufacture of the beet-sugar, had it not been for the efforts made to revive it again by some wealthy and enlightened manufacturers.

These efforts, however, did not arise entirely from the patriotic desire to promote the welfare of France, (as now pretended,) but partly to prevent the loss of immense capitals invested in buildings, apparatus, farms, &c. Moreover, the manufacturers knew there was yet five or six per cent. more to gain by an improved operation.

This it was that gave a new start to this favorite branch of industry; and chemistry, particularly adapted to improve the art and manufacture, assisted in simplifying the process, and discovered the mode of reviving animal charcoal so as to admit of its being repeatedly used, while the improved apparatus helped to economize labor and fuel; and all this, combined with a wonderful perseverance, reduced the expenses of the fabrication, and enabled the old establishments to continue in operation, even when the price of colonial

sugar was very low. This created confidence and a rapid increase of establishments.

The cultivation of the beet has had the most beneficial influence on agriculture; as, in the last year, more than eighty thousand acres of land were planted in beet, producing about one million of tons of this root; and, as generally rotations of four crops are adopted, it brought at least three million two hundred thousand acres of land under the highest cultivation.

The following table shows the rapid increase of the manufactories, and the quantity produced, in France.

Produced		Beet-sugar.
		100,000 cwt.;
1831	200	220,000
1836	543	950,000
1837	600	1,000,000

Or 20,000 tons of beet-sugar.

The manufacture of indigenous sugar did not affect the demand for colonial sugar, as the consumption continually increased until the year 1836, as appears by a table from the Journal of Commerce of 1836, viz:

In Consump. of colon. sugar.	Con. of beet-sugar.
1825 61,255,232 fr.	4,000,000 fr.
1831 67,542,792	10,000,000
1832 62,669,638	15,000,000
1835 69,000,000	30,000,000

But, in the year 1836, France imported only 75,120 tons of colonial sugar—a diminution of 15,630 tons in one year; a *quantum* too large not to alarm the proprietors of the sugar plantations in the French colonies, and particularly in Martinique, who looked, some years ago, with an ironical smile at the beet-sugar manufacturer. They, who have ridiculed and caricatured every improvement in this branch of industry, felt themselves forced to send, in 1835, Baron de Cool, with the following proposition of the French Government, viz: demanding—

1. Diminution of the duties upon French colonial sugar of 50 per cent., and a proportional reduction of duties upon the foreign colonial sugar.
2. The permission to export the colonial sugar direct to a foreign market.
3. A careful examination and investigation how the French colonial and beet-sugar manufactories can be equally taxed.

The latest news from France states that the Government came, finally, to the conclusion of an equal taxation upon the indigenous and colonial sugar, as may be seen from the following extract from a New York paper, (*Morning Courier* and *New York Enquirer* of December 18, 1836,) dated

[By the Ville de Lyons.]

"PARIS, October 30, 1836.

"A branch of industry, (the offspring of necessity under the empire,) the production of sugar from beet-root, has engaged much attention in France, and has been carried on with success, and to a vast extent. The natural consequence has been, that sugar, the produce of the French colonies, which is burdened with a very large duty on importation into France, was beaten out of the market. Appeals were made by the suffering colonists of the Government, repeatedly, representing the distress into which they had fallen from this circumstance; the irremediable ruin that



would necessarily fall upon them if the present tariff were maintained, and soliciting relief. After a variety of expedients to evade a decision on the point, the Government has just come to the resolution of proposing to the Chambers, (which are to meet on the 24th December,) to reduce the import duty on colonial sugar by  $8\frac{1}{2}$  francs per cwt., which with a precisely similar excise duty levied on the beet-root, or home-grown sugar, will, they say, suffice to reopen the market to the colonies."

Such is the state and results of the indigenous sugar manufacture in France.

What is the progress of this branch of industry in the other parts of Europe?

England, (the mother of colonies,) which was very much prejudiced against the manufacture of indigenous sugar, seems to see, in the adoption of it, the only means of improving the physical and moral condition of man in her colonies; and she has already overcome some of her prejudices, and has begun to establish manufactories. The following article, taken from the London *Mechanics' Magazine* of 1836, (No. 169,) will show its progress:

"A refinery of sugar from the beet-root is being erected at Thames bank, Chelsea, which, it is expected, will be in operation in about six weeks. In the vicinity of the metropolis, during the past summer, a great many acres of land have been put into cultivation with the root at Wandsworth and other places. The machinery will be principally on the plans of the vacuum-pans, and a pure refined sugar will be produced from the juice by the first process of evaporation, after it has simply undergone the process of discolorization. Another part of the premises is appropriated to the manufacture of coarse brown paper from the refuse, for which it is extensively used in France. In case the Government do not interfere, and, by rendering the product excisable, retard or prohibit its manufacture, several individuals have it in contemplation to establish refineries in different parts of the kingdom for purifying sugar, which may be produced in agricultural districts for domestic or foreign use. A refinery has lately been established at Belfast, in the vicinity of which town upwards of two hundred acres of land have been put in cultivation with the beet-root for the manufacture of sugar."

Russia, which adopts every useful improvement in manufacture, has, in the southern departments, large manufactories of beet-sugar, by which she expects to furnish some of the Asiatic markets with this article. So have Bohemia, Hungary, Austria, and Switzerland large beet-sugar manufactories, in the most flourishing condition.

The Germans, though the discoverers of the crystallizable sugar in the beet-root, until 1836 made very little progress in its manufacture. This is to be ascribed as well to the continual war with France, which checked every improvement, as to the uncertainty of the business itself. The Germans, well aware and well informed of every improvement made abroad, never found it sufficiently lucrative to embark in it; but it seems that this nation, which has given the world so many great and important discoveries, was destined to bring its own discovery of the extraction of the sugar from the beet to perfection. This was accomplished by Mr. Schuetzenbach, of the Grand

Duchy of Baden. Schuetzenbach, re-examined carefully Markgraf's experiments, and found that the first experiment of this great chemist, made eighty-nine years ago, is the best method, when modified, to produce, with less labor and expense, eight pounds of white refined sugar out of one hundred pounds of the raw beet-root. This improvement it is which will, in a short space of time, exclude all the colonial sugar from the European market, as well as our own. This improvement, also, will change the condition of millions of men in the colonies.

The opinion and judgment of a nation, jealous of every discovery or improvement made in other countries, and especially in this branch of industry, in which it has sacrificed millions of francs for its perfection, will serve as a proof of the importance of the new improvement. These new discoveries are detailed in an article which appeared in the *Journal des Debats Politiques et Littéraires*, in Paris, dated the 16th July, 1838, by Michel Chevalier, viz:

"It would seem that the spirit which was manifested in the days of the Revolution, has been transferred from the political arena, and is exerting itself in that of industry. At this time the manufacture of sugar from beets is on the point of undergoing a metamorphosis which, as it appears, will change all the condition of its existence, and extend its influence, not only to the consumption, but also to the production of that article.

"Until now, a series of operations has been applied to the extracting of sugar from the beet, which, though simple enough in appearance, are in reality complicated and delicate; which demand not only a great number of intelligent and skilful workmen, but also require considerable material to be operated upon; and which, again, consume costly articles, such as milk, blood, animal charcoal, &c.

"In the former process the sugar-beet was scraped; the pulp pressed by means of an hydraulic press. The juice so obtained underwent defecation, or the separation of the albuminous and mucilaginous elements, and then the clarification and evaporation. Once concentrated, the sirup underwent crystallization, which furnished the raw sugar; and this then had to be refined before it could be admitted on our tables.

"Since its origin, the process of extracting the sugar has always been the main point, but it has been modified and improved in the details; so much so, that our manufacturers, who were ruining themselves when the sugar was at six francs the pound, are becoming rich at the low price of 20 sous per lb. At this time the scraping, pressing, defecation, clarifying, and evaporating were attended with difficulties, which it required a great length of time to subdue. The loss in manufacturing was enormous, as only from three to five parts of sugar were obtained from a hundred pounds of beets, instead of ten pounds, which are contained in the root.

"With the assistance of chemical analysis, it was ascertained that this evil proceeded from the presence of a certain quantity of acid, of divers coloring, mucilaginous, and gelatinous matters, suspended in the juice. The presence of these mischievous substances injures the sugar, prevents it from crystallizing, sometimes destroys it, and causes it to yield only poor molasses. To pre-

vent these injurious effects, different agents have been used, which were found more or less efficacious. Apparatus was constructed, which accelerated the manufacture, and diminished the time during which the sugar is in contact with these injurious substances; but the inquiry was never made whether it were possible to separate the sugar from those foreign bodies, or at least to neutralize or paralyze their destructive power, before the juice is extracted.

"The new process, first alluded to, was discovered in the grand duchy of Baden, by Mr. Schuetzenbach, of Carlsruhe. The experiments introduced a method of manufacturing the sugar which was adopted by several manufacturers on the right bank of the Rhine, and which is already in vigorous operation.

"Like all ideas which are destined to accomplish revolutions in manufactures, as well as in politics, that which serves as basis to the new process is simple. The operation of drying the beets immediately after they are taken from the field, is now the first step in the process. By this operation, the mucilaginous matter, which is an integral part of the beet, loses the property of dissolving in water; this drying stops also the fermentation which takes place during the preservation of the beets in cellars or in the heap, and likewise prevents the formation of acids, which were created at the expense of the sugar, and which embarrassed the manufacture of beet-sugar.

"When the beets are once dried, the sugar is easily obtained by mixing them with a small quantity of water, which produces a solution of sugar and a very small portion of other bodies, and which, by the process of evaporation, gives at once a good product, which can be easily refined.

"In a word, the elementary operation of the desiccation acts with the power of exorcism; it drives from the juice all injurious substances which were the former causes of evil in this manufacture.

"This fact being once understood, and duly verified by experiments on a large scale, it was then important to bring it to perfection by an easy practical manipulation. This is what the '*Societe d'Encouragement*' is about to undertake, and that with every chance of complete success. This is already much more than mere expectation, because the problems which it has proposed are already more than half solved, and the entire solution of them is scarcely a matter of doubt: so that the manufacture of the sugar from beets is about to be built on a new basis.

"The '*Societe d'Encouragement*' have offered the following prizes for the promotion of this manufacture:

"1. One of 4000 francs for the best process for the desiccation of the beets.

"2. One of 4,000 francs for the best treatment of the dried beet for the extraction of the raw sugar.

"3. One of 4,000 francs for the conversion of the raw into refined sugar, without taking it out of the mould.

"4. One of 3,000 francs for an analysis of the beet root, &c.

"5. One of 3,000 francs for the invention of a

saccharometer, which should be so constructed as to be easily applied, and to have the property of showing immediately the quantity of crystallizable sugar contained in the fluid under trial. A contrivance of this kind, which would be a sure guide for the farmer, and for the workman in manufactories, indicating to the former the proper time to collect his crop of beets, and to the latter how to manage his operations, would be of immense value.

"When these five prizes are gained, the theoretical and practical renovation of the manufacture of beet-sugar will be radically accomplished in all its forms.

"To the question, *Will this be effected?* it may be safely answered that existing facts scarcely allow of the expression of a doubt that such will be the case.

"The problem of the complete and rapid desiccation by an economical process has presented very formidable difficulties. *This drying may be denominated the CORNER-STONE of the new system*; but this problem is far from being insolvable; on the contrary, it ought to be regarded as solved.

"In one of the last sessions of the *Société d'Encouragement*, Mr. Beyrand, of Marseilles, presented beets cut in slices, which were dried in eight minutes by the combined action of pressure and heat, effected by two cylinders, heated to 100 degrees by steam. This result will appear more prodigious when we consider that 100 parts of beets contain 84 parts of water.

"The beets, prepared after Mr. Beyrand's method, preserve all their sweetness. Mr. Schuetzenbach, of Baden, dries the beets by a slow process, probably less perfect than Mr. Beyrand's method; but the result is already excellent, and favors the application on a large scale. In the manufacture of Mr. Schuetzenbach, the beets are cut in small thin slices, and, as soon as they come in contact with the air, they bend and roll up, and lose the property of sticking together, which gives the hot air of a kiln (to which they are brought immediately after they are cut) a free circulation in all directions round them. The temperature of these kilns is from 20 to 40 degrees Reaumur, (from 99.5 to 122 degrees Fahrenheit.)

"Mr. Schuetzenbach's apparatus of desiccation is very economical. The machine for cutting the beets costs only from 400 to 500 francs, and half a horse power is sufficient to put it in operation. Such a machine, when at work every day for three months will cut one million kilogrammes of beets, (about 1,000 tons,) which would be a sufficient supply for a large manufactory. A kiln, about 10 feet by 9, and 9 feet high, dries, in 24 hours, 3,000 pounds of beets, and consumes only 320 pounds of charcoal. Three such kilns would be sufficient to dry all the beets cut by one machine during twelve hours.

"In the manufactory of Mr. Schuetzenbach the dry beets are reduced to a coarse powder, sprinkled over with lime, and stored away in casks.—When the sugar is to be extracted, this coarse powder is mixed with water, which produces a liquor marking 21 degrees on the saccharometer; and when evaporated with Roth's apparatus, this liquor yields, without any other preparation at the first crystallization, a raw sugar, known in commerce by the name of *bonne quatrieme*, which, after a second crystallization, becomes a *bonne*

*commune*. The advantage of this new method is such, that the beets raised at Esslingen, in Germany, in 1837, (less rich in sugar than the preceding year,) yielded more than eight per cent. of crystallizable sugar, instead of five, which was the highest product by the old process; and, in the proportion as the gain on sugar increases, the expenses decrease; so much so, that eight pounds, now obtained, costs less than formerly four or five from 100 pounds of beets.

"Two important points are then attained: first, how to dry the beet; and second, how to extract the sugar from it.

"To refine the raw sugar, without taking it out from the moulds in which the syrup was placed to crystallize, and which always causes the loss of a considerable quantity of sugar appears to be a question equally advanced. Recent experiments, on a large scale, show that raw sugar washed in moulds, with pressure, gives, in the short space of three days, a perfect refined article, which formerly required from two to three weeks to effect.

"In regard to the analysis of the beet in its diverse states of maturity, nothing has yet been attempted; but this is a task which chemists can at any time accomplish, and the prize held out for it will induce many a chemist to undertake it; and it will not be long before we know to what extent the constituent parts of the sugar-beet develop themselves simultaneously, and which is the most favorable moment for collecting them for the manufacture of sugar.

"In regard to an exact saccharometer, of a simple and practical construction, with the aid of which all manufacturers can ascertain, to a fiftieth part, the richness of the saccharine matter in beets, and of all other substances containing crystallizable sugar, the learned researches of a young chemist, M. Peligot, promise great success. Lime and baryte, have that property to combine with crystallizable sugar, and form together an insoluble composition, in which, nevertheless, the sugar does not alter, and is easily separated from it. In bringing this fact to a simple mechanical operation, no doubt is left that the quantity of sugar contained in beet sirup can be ascertained with the greatest nicety.

"The problems proposed by the *Société d'Encouragement* are at this time almost solved. It does not any longer propose to discover a new method, but only to perfect the processes which are already verified, by an application on a large scale. Among the advantages which are derived from the renovation of the manufacture of the beet-sugar, is the extension of the culture of the beet-root; because it will be easy for every farmer to send his dry product to any market, far or near, as the weight of the raw beet is reduced, by the process of desiccation, to less than one-sixth part. The beet can now be raised anywhere, however distant from the manufactory; and, reciprocally, it is possible to establish manufactories in all parts of France, to concentrate them in such places where fuel is plenty and at a low price; whereas, at present, the manufacture is only possible close to a field fertile enough to produce beets. Another important fact: 1,000 pounds of beets contain 100 pounds of sugar. The price of beets is about 12 francs; the expense of drying and extracting the sugar would not exceed 10 francs,

(this is sufficiently proved by experiments;) making the total amount 22 francs. Suppose that one-tenth of the sugar is lost, the manufacturer would have 90 pounds of sugar for 22 francs, or 100 pounds for less than 25 francs. Allowing for small expenses, &c., 50 per cent., the sugar (the refined sugar of this country) could be delivered to the consumer for 38 centimes, (or 7½ cts.) per pound.

"This will create a revolution in the consumption of sugar, as well as in the division of the branches of industry, over the whole globe; then instead of importing sugar from the southern regions it will be left for us to furnish them.

"MICHEL CHEVALIER."

Another proof of the practicability and great advantage of this improvement, is the enthusiasm with which it was adopted and put into operation by the Germans themselves, who are generally very careful and prudent in all their speculations. They have already established extensive manufactories on the Rhine.

The importance of Mr. Schuetzenbach's discovery is best proved by chemical analysis and examination of the physiology of plants. This analysis of the beet-root shows that 100 parts of the root contain—

86.3 parts of water,  
3.2 parts fibrous matter,  
10.0 parts of crystallizable sugar,  
0.5 parts of mucilage.

By the new process, the water in the beet is evaporated, and there remain only 13.7 parts of dry substance, which consist of the sugar, mucilage, and fibrous matter.

The sugar dissolves in cold or warm water almost instantaneously.

The mucilage is indissoluble in water; when in a dry state and mixed with water, it only swells to a slimy matter.

The fibrous matter is indissoluble, and has neither in the old nor new process any injurious influence.

From this analysis we learn that the mucilage is the only substance which causes all the difficulties of the extraction of sugar. The principal process consists, then, in the separation of the mucilage from the sugar. But is this mixture a work of nature, or the result of the manipulations; or, does the cellular tissue, of which the beet-root is formed, contain the sugar in its pure state, separated from the mucilage?

These are questions as to the physiology of the beet, which were first suggested by Raspail, a French chemist, (in his work on the physiology of plants, Paris, 1837,) and he solved these important problems by the following microscopic experiments:

"When a thin slice of the red beet-root is brought under the focus of a microscope, it will be observed that the texture of the beet is formed of hexagonal cells, transparent, and of a purple color; these cells are crossed by white ones, four or five times longer than the purple cells; this tissue of white cells is crossed again by bundles of opaque cylinders, of a gray color, through which the spirals (*elements generateurs*) are observed.

"When a drop of acid (*acide sulphurique* et *humineux*, which has the property of coloring saccharine substances purple) is put on this thin



alice, the colors change; the part which was purple turns yellowish, the long cells remain white, but the opaque cylinders become purple."

From this it follows that the cells, naturally purple, enclose the coloring matter and the mucilage, and the opaque cylinders the sugar in its pure state. Thus the mucilage in the beet-root is separated by nature from the sugar, and mixed during the manipulation, which caused all the difficulties of the extraction in the old process, when the mucilage was combined with the sugar in grating, pressing, and even in defecation.

To separate this five-tenths parts of mucilage which the beet contains, occasioned not only the loss of considerable sugar, but also labor, fuel, and costly material, as, for instance, animal charcoal, blood, &c.

The new process acts entirely in conformity with the results of scientific investigation, and the whole process is reduced to a simple operation, which gives a sure gain of 8 per cent. of white refined sugar from 100 pounds of the raw beet-root.

The beets are now cut in thin slices, dried before any fermentation can take place, ground to fine powder, so that all cells are broken apart, and mixed with water, which dissolves the sugar before the mucilage begins to swell. The pure uncolored liquor obtained is evaporated, and the sirup brought into moulds to crystallize.

These statements should be considered as a sufficient proof of the infallibility and practicability of the new improvement; and the introduction and general adoption of it in this country would be of the highest importance to the welfare of its population.

Some enterprising citizens of the United States sent agents to France to investigate the manipulations of this branch of industry; but the results have yet effected very little, and the sugar produced from the beet in this country is of no great account, which arises probably from the want of skilful and intelligent operators in the former complicated manipulations. But, at present, in Europe, the manipulations are reduced to a process much simpler than brewing common table beer, which can be comprehended and performed by every person. The period is not distant when farmers will produce their own sugar, or at least raise and dry the beet ready for the manufacturer.

The general argument against the introduction of this branch of industry, that labor is too high in the United States, is incorrect, when we consider the other great advantages which the United States have over every other country on the globe in almost every business, and especially in this branch of industry:

1st. The United States possess a climate which suits the beets better than any climate of Europe, because the summers are excessively warm, which increases the saccharine property of the beet root.

2d. Plenty of cheap and rich land, subject to but a small tax.

3d. Inexhaustible stores of fuel, from which the great natural water-courses, railroads, and canals branch, over the whole Union.

4th. Well-constructed labor-saving machines of all descriptions.

5th. An intelligent population, which, when once acquainted with this branch of industry, will soon bring it to great perfection—a popula-

tion understanding the use and management of machinery, and famous for improvements and inventions. Whereas, in Europe, the land is overtaxed, high in price, and therefore the interest upon it considerable; subject to *tithes* and other feudal burdens; while the fuel is scarce and valuable, and its transportation high and slow. The population are entirely unacquainted with labor-saving machines, and possess very little mechanical ingenuity, while their enterprise is prohibited by the excise laws of their petty governments.

It is obvious that America overbalances, with its advantages, the low prices of labor in Europe; and that she is able not only to provide herself with all the sugar wanted for home consumption, but also to supply other countries.

The sugar now produced in Louisiana averages only about  $4\frac{1}{2}$  pounds per head for the population of the United States, or about 70,000,000 pounds annually, which is but a small part of our consumption, as enormous sums are yearly paid to foreign countries for sugar, as the following table shows, viz:

1832, imported into the U. States,	\$2,933,688
1833, do. do.	4,752,343
1834, do. do.	5,537,929
1835, do. do.	6,806,194
1836, do. do.	12,514,551

This sum will annually increase in proportion as the population augments and their comforts and means improve.

By the adoption of this new branch of industry, the sums at present paid for imported sugar would be in short a clear gain to the country: its agriculture would be improved, and thousands of acres of exhausted and deteriorated land would be again taken up and improved. To procure the necessary manure for this purpose, the farmer would be obliged to increase his live-stock, which would find, during the winter season, plenty of food in the residuum of the manufactory. It would increase the consumption of sugar among the less wealthy class, and would make their condition of life more comfortable, and, of consequence, greatly extend the population of the country.

The manufacture of sugar is not confined to the beet and cane only. In Hungary there are at present manufactories which make sugar from pumpkins. The following article, translated from the *Hanoverian Communicator*, 1837, gives the particulars, as follows:

"A manufacturer in Hungary, for three years past, has used pumpkins for the manufacture of sugar. We have seen raw and refined sugar, also sirup from this manufactory, and found the refined sugar equal to the colonial in every respect. The raw sugar is crystalline, coarse-grained, light-colored, and of more agreeable (melon-like) flavor than the common raw beet-sugar; the sirup is of a blackish-green color, and has also a melon-like flavor, but is suitable for consumption. The juice, obtained by pressure, yields, on an average, six per cent. of sugar; but the water-melon of the south of Hungary is still more productive than the pumpkin of the north. The sugar obtained from the pumpkin is always considerable, whether the fruit has been raised on rich or poor land. The manipulation is said to be more simple than the manufactory of beet sugar, and requires less attention, as the pulp and the juice

may stand for three weeks without getting sour or losing any quantity of sugar. The juice, during the process of evaporation, does not rise in the boilers, and is not so liable to be burnt. The residuum is very good food for cattle. One acre produces 650 cwt. of pumpkins; twenty pumpkins yield sufficient seed for one acre of ground. From the remaining seed a very good table oil of about 16 per cent. can be obtained.

#### "MARQUARDT."

Indian corn, at the period of tasselling, yields just half as much sugar as the sugar-cane; and it is astonishing that this well-known fact did not induce persons to plant corn especially for that purpose.

To make use of green corn and pumpkins profitably, and to improve the crop of beet in quality and quantity, the following plan is, therefore suggested, which would keep a manufactory in operation all the year round:

We know that the beet requires a deep soil, sufficiently provided with decomposed manure, as when planted in green manure they yield much less sugar, and the operation is rendered more difficult; to prepare the field properly for the beet, it should be well manured, (no matter in what state the manure may be applied,) ploughed, and planted in corn and pumpkins, and worked regularly as long as the pumpkins leave room for the horse-hoe. When the corn begins to form the tassel, it should be cut off, and the sugar extracted from it. The pumpkin has then all the influence of the sun to come to full maturity, and should be used, when ripe, for sugar. The following year the field would be in first-rate order for the beet, and the following rotation of crops, viz:

Indian-corn and pumpkins, with manure,	} for sugar,
Beets,	
Barley,	
Clover,	
Wheat.	

An acre of good cultivated land yields, on an average, twenty tons of the beet-root. Beets were sold this fall, near Boston, for \$5 per ton.

One ton of beets yields, when treated after the new method, 180 lbs. of white refined sugar. The cost of manufacturing a ton of beets into sugar would be, at a very high estimate, \$6. One hundred and eighty pounds of refined beet-sugar would cost \$11, or 6 1-10 cents per pound, for which we now pay, at the lowest rate, 15 cents.

Mr. Norbert Rillieux, of New Orleans, has recently invented an apparatus for reducing saccharine liquids, which has been patented in the United States, and is already tested.

This apparatus surpasses Howard's and Roth's, or any other invention of this description, not only in simplicity and cheapness, but also in the arrangement in the boiling of sugar, according with the laws of science and economy.

The liquor is reduced by two vertical cylinders, heated by steam, over which the sirup is distributed in small quantities. One of the cylinders operates under a vacuum, and entirely evaporates the condensed liquor by a low degree of heat, to hinder the formation of molasses—an improvement of the highest importance, which, till now, has never been accomplished. The sirup can be increased to any degree of the saccharometer de-

sired, which is performed by the most ingenious and simple contrivance of a differential thermometer. This apparatus will greatly facilitate the manufacture of sugar, in regard to the economy of labor, fuel, and time, and the perfection of the product. This apparatus will rank among the most ingenious and important inventions.

The production of indigenous sugar in France was one of the main pillars of *Napoleon's continental system*; and the successful extraction of sugar from the beet was relied on as the surest guaranty of its stability.

That branch of productive industry, therefore, which the first statesman and captain of the age regarded alike as the means of conquest and the source of wealth and independence, cannot be considered a matter of indifference to the Government of this great and growing republic, whose duty and privilege it is to watch over the interest and welfare of its citizens—a Government aspiring to no conquest, yet whose enviable distinction it is to be regarded as the last hope of freedom—the last asylum of liberty.

The information imparted in the preceding pages, collected as it is from the most authentic sources, it is hoped will be regarded as of the highest importance to any and every government charged with the duty of promoting the great interests of a nation.

Having traced the history and progress of the manufacture of the beet-sugar, from the first discovery in Europe to the present time, through all its varied experiments and decreasing expenses, until no longer requiring the bounty of Government, but yielding a revenue, the only remaining inquiry is, how shall the American people avail themselves of the important advantages of this new source of national wealth and industry?

To acquire a correct and minute knowledge of this new branch of industry, (now practically unknown in this country,) it is necessary to visit Hungary, Germany, France, and England, in order to examine all the recent and important discoveries and improvements relating to the manufacture of beet-sugar. To accomplish this object, it would require the following qualifications:

1. A thorough knowledge of the old method of extracting sugar from the beet, and every apparatus hitherto used.
2. A thorough knowledge of agriculture, in order to ascertain the precise cost of the production of the raw material, the influence which it has on the different systems of agriculture, and the economy in regard to the feeding of cattle, &c.
3. A knowledge of chemistry and physics.
4. A knowledge of the languages of the different countries to be visited, and a thorough acquaintance with technical and vulgar terms in mechanics and agriculture, as well as the *patois* of the countries.
5. A knowledge of mechanics and the art of drawing, in order to be able to delineate any apparatus at first sight, and at a glance, as manufacturers are not always willing to have their apparatus examined minutely.

CHARLES LEWIS FLEISCHMANN,  
Graduate of the Royal Agricultural Institute  
of Bavaria.

PATENT OFFICE,  
Washington, December 27, 1838.

PATENT OFFICE, December 28, 1838.

SIR: At the request of the author of the accompanying memorial, I have the honor to submit the same to your care, for such disposition as you shall deem best calculated to promote the wishes of Mr. Fleischmann, and the interests of the country.

Allow me to state that Mr. Fleischmann, is a gentleman of varied practical and scientific information, and has been for the last two years a resident of this city, and employed by me in the Patent Office. He is a native of Bavaria, and was educated in the Royal Agricultural and Polytechnical school at Schlessheim, near Munich, at which he graduated with distinguished honor, and was appointed *Inspector of the Public Domain*—an office of great responsibility, and rarely conferred but on men of advanced age; he was also director of the estates of Count Seinsheim, comprising twenty-four village. Emigrating to this country with much experimental knowledge, and well versed in the French and German languages, he has, at my suggestion, draughted this memorial, which I believe cannot fail to be read with deep interest, comprising as it does the most important and latest discoveries in the manufacture of beet-sugar, drawn from publications recently received at this office from Europe.

Should the Government desire the services of an agent to investigate this subject by visiting the manufactories of Europe, I would respectfully recommend the author of this memorial.

With the highest respect, I remain your obedient servant,

HENRY L. ELLSWORTH.

HON. RICHARD FLETCHER,  
House of Representatives.

The following articles are republished from our paper of the 8th inst. by particular request.

#### THE NATIONAL SILK CONVENTION.

In looking over the proceedings of this body, it appeared to us proper that we should make a few general remarks upon their character and tendency, so as to arouse the attention of the people to a just estimate of their profound importance. It will be recollected that but a few weeks notice had been given for its meeting, and we are sure the reader will be surprised to learn that, on the first day of its assemblage, *one hundred and seventy-five members* were in attendance; that before its adjournment, *three hundred members* were present, and that *eleven states* besides the *District of Columbia* were represented, thus manifesting the deep and absorbing interest that has been awakened to the success of this new and lucrative branch of agricultural industry. To us—who have labored for years with an honesty of purpose, and a zeal that nothing could repress; who have looked on unmoved amidst the sneers of the ignorant, and the taunts of others, who were either too idle to investigate the question, or too indifferent to the issue to encounter the labor—we confess that the array of talent, virtue, and respectability, which were to be found in the *Convention*, was indeed a most gratifying and heart-cheering spectacle. In it we beheld the sure and unerring evidence, that the *silk culture* had taken a deep and abiding root in the affections of the people; and we seize this occasion to congratulate

our countrymen on it, as being one of the most auspicious events that have happened in the history of our country, not even excepting the one which occurred on that proud day, when the fathers of our land, at the "peril of life, liberty and property," declared that "we were, and of right ought to be, a free and independent people." We say this with a full knowledge and just appreciation of the value in a moral and political point of view, of all the leading points connected with it. The declaration of independence set forth, in the stern language of indignant patriotism, the wrongs which had been inflicted upon the then colonies—the recital of those wrongs, couched as it was in the language of truth, carried with it a moral force that rallied around our standard every heart that was prepared to make a generous sacrifice on the altar of patriotism—to go his death for his country. It went farther—it awakened the latent feelings of love of country in many breasts, where a spirit of neutrality had previously dwelt; for they saw that, as the sword had been drawn, and the scabbard thrown away, the only alternatives left were, either to come to the rescue of the Republic, or to incur the blasting odium of being traitors to the land of their adoption or birth, and choosing the former, they too, rallied under those stripes and stars that carried Washington and his compeers triumphantly through the unequal contest, and won for us our national existence. By the *declaration of independence* then, and the glorious deeds achieved under its auspices, our *being as a political people* were attained; and if we could, or if it had been desirable for us to have remained exclusively an agricultural and manufacturing community, our independence would have been complete. But as the germs of commerce had been already planted, a higher and more noble destiny awaited us, and it was reserved for us to become the second commercial country in the world. Our independence acknowledged, and the treaty of peace between us and our theretofore mother country established, the confidence and friendship of other nations were thus secured, and alliances of peace formed. This laid the groundwork of extensive commercial relations with the nations of every sea known to civilized man; new sources of wealth opened to our acceptance; the spirit of commercial enterprise already awakened, became reinvigorated, and our adventurous tars were seen filling their sails in every ocean. Year after year has rolled around but to increase our distant trade, and had the productions of our soil—had our exports kept pace with our imports, all would have been well—the body politic would this day be sound to the core. But as with individuals, so it is with nations; when either buys more than it has the means of paying for, embarrassments must ensue; and neither can be said to be independent, with a large pecuniary debt hanging over their heads. A nation, by its political charter, may declare its citizens, or subjects, politically free and independent, but the immunities and privileges thus conferred, however sacred in the eye of patriotism—however fondly they may be cherished by those who dwell under their protecting influences, do not vouchsafe the full fruition of man's independence in the broad sense of the term, unless his fiscal affairs be also free from difficulties. As a people then, no nation can be said to be independent, whatever may be the con-



dition of their political rights—no matter how free the institutions under which they live may be, where a large balance of trade is against them. If they buy more than they sell, dependence for a time is the necessary consequence—this dependence, it may be said, is but temporary; still view it as you may, blink the question as, and how you may, the grating fact stares us in the face. The late monetary difficulties of our country go strongly to corroborate our position, and notwithstanding much of the mischief was done by home speculations and ill concerted fiscal arrangements here, still the evils arising from this cause, were but as drops in the bucket, compared with the volume of water in the ocean, when relatively considered with those which arose from the excess of our foreign debt over our then present means to meet it. In the midst of all the troubles through which we have just passed, what would have been our condition but for the surplus products of agricultural labor—our cotton, sugar and tobacco—which were so judiciously made to appease our foreign creditors. We say then, that to be truly independent, we must so far raise the value of our exports as to meet that of our imports, or reduce the latter to the standard value of the former. Our course ought to be to pursue the first mentioned plan, and we maintain that we may accomplish it in a few years, if the American farmers and planters will, as they ought to do, generally introduce the Silk culture as a small branch of their respective systems of culture. Two acres in every hundred occupied in the growth of grain, will, in ten years, if devoted to the raising of silk, give us an aggregate amount of additional values, which will place us in the more wholesome relation of creditor, instead of being as we now are debtor to the nations of Europe; and while this salutary national condition will be brought about, without any extraordinary diversion of the present agricultural force of the country from its usual pursuits, the degree of individual happiness and comfort, which will be dispensed throughout the land, will be still more beneficent. And hence it is, that we have seized upon the occasion to congratulate our countrymen on the evidence furnished by the proceedings of the Convention, of the existence of a feeling and an interest among the people, in behalf of the silk culture, which will carry it onward until it works out the regeneration of our country from pecuniary thralldom; gives employment to the industrious poor, increases the competency of those in better circumstances, and opens to the destitute widow and her helpless little ones, the possession of that which will "bind up their wounded hearts and pillow their aching heads."

#### THE STATE SILK CONVENTION.

We publish in our journal to-day the proceedings of the meeting of the friends of the Silk culture held in this city on the 2d inst. to appoint delegates to the State Convention to be held at the city of Annapolis on the 15th inst. and commend them to every friend of the cause in Maryland. Approving of the objects contemplated to be attained by the convention, and deeming them of the very first importance to the future well-being of the state, we trust that every county in it will take prompt and efficient measures to be represented. Possessing, as Maryland does, a cli-

mate and soil peculiarly adapted to the Silk culture, we indulge the hope that her citizens will manifest a proper and becoming zeal in her welfare on this occasion. Should they do so, the day is not distant when her exports of raw silk will exceed, in value, those which she now derives from wheat and tobacco. Believing as we religiously do, that this auspicious state of things may be brought about in ten years, if our advantages are properly improved, we are sure we will be excused for urging upon our people the earliest attention to the subject, and for hoping that the culture may find favor with the legislature, whose province it will be to carry out the views of the approaching convention.

#### SILK CULTURE.

We extract the following from Gov. Shannon's message to the legislature of Ohio, and are pleased to find in his first official communication to that body, he has shown himself attentive to a branch of agricultural industry most worthy of the fostering care of the government of that, as of every other state in the union. Nor are we less pleased to find by the Governor's notice, that a very lively interest has been awakened to it in that quarter, as from the intelligence, industry and enterprise of the people of Ohio, we are sure, that its march will be onward. The example so praiseworthy set by Governor Shannon, we trust will be followed by the Executives of the other members of the confederacy, and that the several legislatures, where encouragement does not already exist, will have the moral courage to carry out the views which may be recommended to their adoption.

Governor Shannon observes:—

"The agricultural and mechanical branches of business, being the sources of all real and substantial wealth, are entitled to the special favor of the legislature. The culture of silk, in various parts of the State, is exciting much interest among many of our agriculturists and manufacturers, and it is confidently believed by those whose experience and knowledge entitle their judgment to considerable weight, that our soil is as well adapted to this kind of business as France or Italy, where it has added so much to the national wealth of those respective countries.

From the experiments which have been made, it may be said with certainty, that the successful culture of silk in Ohio, is no longer a matter of doubt; all that is wanting to render the business entirely successful and prosperous, is the direction of public attention to the subject; and to extend to it in its infancy, and for a limited time, some legislative aid by allowing a bounty to the producer of the raw material. A laudable anxiety has been manifested in several of the states to encourage this branch of industry by extending to the producer, a liberal bounty, for a limited time, and it has been the cause of directing public attention to the subject, and bringing into active operation the manufacture of this valuable article. I would recommend the adoption of a similar policy in our own State."

#### ROBERTS' SILK MANUAL.

Price per single copy, 37½ cts.—to dealers who take 100 copies or more, a deduction of 33½ per cent. discount will be made; to those who take a less number, 20 per ct. will be allowed.

#### SEEDS, PLANTS, FLOWERS.



The subscriber offers for sale at his establishment a fresh supply of GARDEN SEEDS of the very best quality; those that cannot be grown in this country he imports direct from Europe from a source that can be relied on.

Besides a large collection of GREENHOUSE, hardy ORNA-

MENTAL TREES and Shrubs, Herbaceous Plants, and Bulbous Roots, and a choice collection of the very finest double Dahlias offered for sale, all on reasonable terms, wholesale or retail.

Also on hand a few bushels of ITALIAN RYE GRASS, with 100 bush. ITALIAN SPRING WHEAT, of the true kind. All orders for Fruit and Ornamental Trees, or any thing appertaining to his establishment will be strictly attended to, by

JOHN FEAST,  
Florist & Seedsman, cor. of Lexington and Pine sts.  
ja 22 f Baltimore.

#### CHINESE MULBERRY TREES.

American Silk Agency, No. 95, Walnut st. Philadelphia

The subscriber having opened a permanent Agency for the purchase and sale of all articles connected with the culture and manufacture of Silk in the United States, offers for sale all the different varieties of MULBERRY TREES, suitable for raising the SILK WORM; viz: Morus Multicaulis Alpines, Brussa Multicaulis Seedlings, Morus Expansa, Multicaulis Cuttings, Improved Italian Trees, &c. Also, Cuttings from Norton's Virginia Seedlings, and Cunningham's Prince Edward GAPE VINES. These vines produce an abundant crop of fruit, warranted not to rot or mildew and are fine for the table, and capable of yielding the finest wines.

S. C. CLEVELAND, Agent.

#### SILK AGENCY OF BALTIMORE.

The undersigned has opened the Spacious Room, No. 194 Baltimore street, for the purpose of Receiving, Exhibiting, and Selling on Commission all useful and approved articles connected with the growth, production and manufacture of American Silk. This establishment is designed also to concentrate information and improvement on the subject and advancing this great national enterprise. The following are among the articles which will be constantly on sale, viz:

Morus Multicaulis, Canton, Alpine, Asiatic, Brussa and other approved MULBERRY TREES, to produce food for Silk Worms.

Cocoons of every variety.

Eggs for producing Silk Worms.

MACHINERY for Reeling and Manufacturing.

Periodicals and Standard Works for giving information.

jan 1 3t\* E. CENTER.

#### SPLENDID BLOODED STOCK FOR SALE.

The proprietor of Covington farm will dispose of the following fine bulls on reasonable terms, viz.

One bull two and a half years old.

One do. six months old.

of the improved Durham short horn breed; the dam of the first was got by the celebrated bull Bolivar; for size, form and beauty they are not surpassed by any animal in the state.

Three Devon Bulls, one of which is seven years old next spring, and the largest Devon in the State. The Devons are from the stock of the late Wm. Patterson, and of undoubted purity.

Two half Devon bulls.

Two bulls half improved Durham short horn, and half Devon.

One splendid bull, a cross of the Bakewell, Alderney and Devon.

One bull, half Alderney and half Holstein.

These fine animals may be seen at Covington farm, near Petersville, Frederick county, Md. on application to James L. Hawkins, Baltimore, or to

se 11 f FREDERICK F. ERT. Manager.

#### FARMERS' REPOSITORY OF AGRICULTURAL IMPLEMENTS AND EAST- MAN'S CYLINDRICAL STRAW CUTTERS

IMPROVED.

JONATHAN S. EASTMAN,

Pratt street, Baltimore,

Between Charles & Hanover sts

feb 20

## BALTIMORE PRODUCE MARKET.

These Prices are carefully corrected every MONDAY

	PER	FROM	TO
BEANS, white field,.....	bushel.	1 25	
CATTLE, on the hoof,.....	100lbs	8 88	8 90
CORN, yellow.....	bushel		90
White.....		90	92
COTTON, Virginia.....	pound	14	15
North Carolina.....		13 1/2	14 1/2
Upland.....		11 1/2	15
Louisiana — Alabama.....		15	16
FEATHERS.....	pound.	55	
FLAXSEED.....	bushel.	1 69	1 75
FLOUR & MEAL—Best wh. wh't fam.....	barrel.	10 00	10 50
Do. do. baker's.....			
Superior, st. from stores.....		8 12	8 25
Wagon price.....		7 75	7 75
City Mills, super.....		8 12	8 25
Extra.....		8 50	
Susquehanna.....			
Rye.....		5 50	
Killed-dried Meat, in hhd. hhd.....		19 00	
do. in bbl. bbl.....		4 00	
GRASS SEEDS, whols. red Clover, bushel.....		14 00	16 00
Kentucky blue.....			
Timothy (herds of the north).....		3 00	
Orchard.....		2 00	2 50
Tall meadow Oat.....			3 00
Herds, or red top.....		90	1 00
HAY, in bulk.....	ton.	12 00	16 00
HEMP, country, dew rotted.....	pound.	6	7
Water rotted.....			
HOGS, on the hoof.....	100lb.	8 00	8 50
Slaughtered.....		8 00	8 50
COWS—first sort.....	pound.	20	
second.....		18	
refuse.....			
LIME.....	bushel.	32	33
MUSTARD SEED, Domestic, —; blk.....		3 50	4 00
OATS.....		50	53
PEAS, red eye.....	bushel.		1 12
Black eye.....		1 00	1 12
Lady.....			
PLASTER PARIS, in the stone, cargo, ton.....		4 37	
Ground.....	barrel.	1 50	
PALMA CHRISTA BEAN.....	bushel.		3
RAGE.....	pound.		95
RYE.....	bushel.		
Susquehanna.....		none	
TOBACCO, crop, common.....	100lbs	5 00	5 50
“ brown and red.....		6 00	6 50
“ fine red.....		9 00	12 00
“ wrappery, suitable.....			
for segars.....		10 00	20 00
“ yellow and red.....		10 00	14 00
“ good yellow.....		10 00	15 00
“ fine yellow.....		12 00	15 00
Seconds, as in quality.....		6 00	
“ ground leaf.....		7 00	9 00
Virginia.....		6 00	10 00
Rappahannock.....			
Kentucky.....		6 00	8 00
WHEAT, white.....	bushel.		
Red, best.....		1 80	
Maryland.....		1 75	1 80
WHISKY, 1st pf. in bbls.....	gallon.	44	45
“ in hhd.....		41	
“ wagon price.....		41	
WAGON FREIGHTS, to Pittsburgh.....	100lbs	2 00	
To Wheeling.....		2 25	
WOOL, Prime & Saxon Fleeces.....	pound.	50 to 55	
Full Merino.....		45 50	
Three fourths Merino.....		40 45	
One half do.....		35 40	
Common & one fourth Meri.....		35 40	
Pulled.....		30 33	
POTATOES, 60 to 70 cts. a bushel.			

## THE AMERICAN FARMER.

The proprietors of this paper have a few complete sets of this work on hand, which they will dispose of at the reduced price of \$50 a set.

est. 18

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## BALTIMORE PROVISION MARKET.

	PER	FROM	TO
APPLES.....	barrel.		
BACON, hams, now, Balt. cured.....	pound.	15	
Shoulders.....		12 1/2	
Middlings.....		12 1/2	
Assorted, country.....		12 1/2	
BUTTER, printed, in lbs. & half lbs.....		31	50
Roll.....		25	31 1/2
CIDER.....	barrel.	1 75	2 00
CALVES, three to six weeks old.....	each.	5 00	6 00
COWS, new milch.....		25 00	40 00
Dry.....		12 00	15 00
CORN MEAL, for family use.....	100lbs.	2 00	2 12
CHOP RYE.....			1 60
EGGS.....	dozen.	37 1/2	
FISH, Shad, No. 1, Susquehanna.....	barrel.		
No. 2.....			
Herrings, salted, No. 1.....		6 00	6 25
Mackerel, No. 1, ——— No. 2.....		11 00	13 50
No. 3.....		7 50	
Cod, salted.....	cwt.	3 25	3 37 1/2
LARD.....	pound.	12	13

## BANK NOTE TABLE.

Corrected for the Farmer & Gardener, by Samuel Winchester, Lottery & Exchange Broker, No. 94, corner of Baltimore and North streets.

U. S. Bank,.....	par	VIRGINIA.
Branch at Baltimore,....	do	Farmers Bank of Virgi. par
Other Branches,.....	do	Bank of Virginia,.... do
MARYLAND.		Branch at Fredericksburg,do
Banks in Baltimore,....	par	Petersburg,..... do
Hagerstown,..	o	Norfolk,..... do
Frederick,.....	do	Winchester,..... do
Westminster,.....	do	Lynchburg,..... do
Farmers' Bank of Mary'd, do	do	Danville,..... do
Do. payable at Easton,....	do	Bank of Valley, Winch. par
Salisbury,....	1 per ct. dis.	Branch at Romney, .. par
Cumberland,.....	par	Do. Charlestown, par
Millington,.....	do	Do. Leesburg,..... par
DISTRICT.		Wheeling Banks, ... 2½
Washington, }	Banks, 1 p. c.	Ohio Banks, generally 3
Georgetown, }		New Jersey Banks gen. 3
Alexandria, }		New York City, .... par
PENNSYLVANIA.		New York State, .... do ½
Philadelphia,.....	par	Massachusetts, .... 1½
Chambersburg,.....	½	Connecticut, .... 1½
Gettysburg.....	do	New Hampshire, ... 1½
Pittsburg,.....	2½	Maine, ..... 1½
York,.....	4	Rhode Island, .... 1½
Other Pennsylvania Bks. 2		North Carolina, ... 3½
Delaware [under \$5]....	4	South Carolina, ... 4½
Do. [over 5].....	1½	Georgia,..... 5½
Michigan Banks,.....	10	New Orleans..... 7½
Canadian do.....	10	